

## CLAIMS

- 1        1.        A method for printing, comprising:  
2                providing a printing system for printing a code on a product moving in  
3        a direction, the code being constructed from a plurality of pixels in a first data  
4        set indicating the positions of the pixels;  
5                generating a corrected data set indicating the position that each pixel  
6        would occupy if each pixel was moved at the velocity of the product until the  
7        pixel was printed; and  
8                printing the code according to the corrected data set.
- 1        2.        The method of claim 1, wherein printing the corrected data set includes  
2        printing a two dimensional trace of pixels.
- 1        3.        The method of claim 1, wherein printing the corrected includes  
2        printing a two dimensional trace of spots.
- 1        4.        The method of claim 1, further comprising:  
2                prioritizing the order in which the pixels are printed such that the  
3        pixels are printed in a direction which is opposite to the direction which the  
4        product moves.
- 1        5.        The method of claim 1, wherein the printing system includes  
2                a laser mounted in a housing, the housing including an optics assembly  
3        configured to focus a printing beam produced by the laser onto a product  
4        positioned adjacent the housing.

- 1           6.     The method of claim 1, wherein the printing system includes  
2                 a laser configured to produce a printing beam for printing the code on  
3                 a product;  
4                 a housing including a printing beam exit member through which the  
5                 printing beam exits the housing; and  
6                 an optics assembly within the housing, the optics assembly configured  
7                 to focus the printing beam on a product which is adjacent to the housing.
- 1           7.     The method of claim 1, wherein the pixels are constructed from a  
2                 plurality of spots.
- 1           8.     The method of claim 1, wherein the pixels are constructed from a  
2                 plurality of spots and the first data set indicates the positions of the spots in  
3                 the code.
- 1           9.     The method of claim 1, wherein the pixels are constructed from a  
2                 plurality of spots and the corrected data set indicates the positions that each  
3                 spot would occupy if each spot were moved along with the product until the  
4                 spot was printed.
- 1           10.    A printing system, comprising:  
2                 a laser for printing a code on a product moving in a direction, the code  
3                 being constructed from a plurality of pixels in a first data set indicating the  
4                 positions of the pixels;  
5                 electronics for generating a corrected data set indicating the position  
6                 that each pixel would occupy if each pixel was moved at the velocity of the  
7                 product until the pixel was printed; and

8 electronics for printing the code according to the corrected data set.

1 11. The method of claim 10, wherein printing the corrected data set  
2 includes printing a trace of pixels in two dimensions.

1 12. The method of claim 10, wherein printing the corrected includes  
2 printing a trace of spots in two dimensions.

1 13. The printing system of claim 10, further comprising:  
2 electronics for prioritizing the order in which the pixels are printed  
3 such that the pixels are printed in a direction which is opposite to the direction  
4 which the product moves.

1 14. The printing system of claim 13, wherein the laser is mounted in a  
2 housing, the housing including an optics assembly configured to focus a  
3 printing beam produced by the laser onto a product positioned adjacent the  
4 housing.

1 15. The printing system of claim 13, wherein the printing system includes  
2 a laser configured to produce a printing beam for printing the code on  
3 a product;  
4 a housing including a printing beam exit member through which the  
5 printing beam exits the housing; and  
6 an optics assembly within the housing, the optics assembly configured  
7 to focus the printing beam on a product which is adjacent to the housing.

1 16. The printing system of claim 13, wherein the pixels are constructed  
2 from a plurality of spots.

1        17.    The printing system of claim 13, wherein the pixels are constructed  
2        from a plurality of spots and the first data set indicates the positions of the  
3        spots in the code.

1        18.    The printing system of claim 13, wherein the pixels are constructed  
2        from a plurality of spots and the corrected data set indicates the positions that  
3        each spot would occupy if each spot was moved along with the product until  
4        the spot was printed.

1        19.    A method for printing on a product, comprising:  
2                providing a printing system for printing a code on a product which is  
3        adjacent to the printing system and which is moving in a direction relative to  
4        the printing system, the code constructed from a plurality of pixels; and  
5                prioritizing the order in which the pixels are printed such that the  
6        pixels are printed in a direction which is opposite to the direction which the  
7        product moves.

1        20.    The method of claim 19, wherein an aperture limits the area within  
2        which the laser is able to print and the product moves past the aperture.

1        21.    The method of claim 20, wherein the pixels are prioritized such that  
2        pixels which would cross in front of the aperture earlier are given a higher  
3        priority than pixels which would cross in front of the aperture later if the  
4        pixels were already printed on the product as the product moves past the  
5        aperture.

1        22.    The method of claim 19, wherein the pixels are each constructed from  
2        a plurality of spots and prioritizing the order in which the pixels are printed

3 includes prioritizing the order which the spots are printed such that the spots  
4 are printed in a direction which is opposite to the direction which the product  
5 moves.

1 23. The method of claim 19, wherein the pixels are arranged in a first data  
2 set indicating the positions of the pixels, and further comprising:  
3 generating a corrected data set indicating the position that each pixel  
4 would occupy if each pixel were moved along with the product until the pixel  
5 was printed.

1 24. The method of claim 19, wherein the pixels are arranged in a plurality  
2 of columns and prioritizing the order which the pixels are printed includes  
3 prioritizing each of the columns.

1 25. The method of claim 19, wherein the printing system includes  
2 a laser mounted in a housing, the housing including an optics assembly  
3 configured to focus a printing beam produced by the laser onto a product  
4 positioned adjacent to the housing.

1 26. The method of claim 19, wherein the printing system includes  
2 a laser configured to produce a printing beam for printing the code on  
3 a product;  
4 a housing including a printing beam exit member through which the  
5 printing beam exits the housing; and  
6 an optics assembly within the housing, the optics assembly configured  
7 to focus the printing beam on a product which is adjacent to the housing.

1 27. A printing system, comprising:

2 a laser for printing a code on a product which is adjacent to the  
3 printing system and moving in a direction relative to the printing system, the  
4 code constructed from a plurality of pixels; and

5 electronics for prioritizing the order in which the pixels are printed  
6 such that the pixels are printed in a direction which is opposite to the direction  
7 which the product moves.

1 28. The printing system of claim 27, wherein an aperture limits the area of  
2 the product on which the laser is able to print as the product moves past the  
3 printing system.

1 29. The printing system of claim 28, wherein the pixels are prioritized  
2 such that pixels which would cross in front of the aperture earlier are given a  
3 higher priority than pixels which would cross in front of the aperture later if  
4 the pixels were present on the product before being printed by the printing  
5 system.

1 30. The printing system of claim 27, wherein the pixels are each  
2 constructed from a plurality of spots and prioritizing the order in which the  
3 pixels are printed includes prioritizing the order which the spots are printed  
4 such that the spots are printed in a direction which is opposite to the direction  
5 which the product moves.

1 31. The printing system of claim 27, wherein the pixels are arranged in a  
2 first data set indicating the positions of the pixels, and further comprising:  
3 generating a corrected data set indicating the position that each pixel  
4 would occupy if each pixel were moved along with the product until the pixel  
5 was printed.

1        32.    The printing system of claim 27, wherein the pixels are arranged in a  
2        plurality of columns and prioritizing the order which the pixels are printed  
3        includes prioritizing each of the columns.

1        33.    A method for printing, comprising:  
2                providing a printing system for printing an alphanumeric code on a  
3        product moving in a direction, the code being constructed from a plurality of  
4        pixels; and  
5                printing pixels on the product in a two dimensional trace so as to form  
6        the code on the product.

1        34.    A method of printing, comprising:  
2                providing a printing system for printing an alphanumeric code on a  
3        product moving in a direction, the code being constructed from a plurality of  
4        pixels; and  
5                changing the density of the pixels that construct the code.

1        35.    The method of claim 34, wherein the density of the pixels is changed  
2        in accordance with the amount of time available to print the code on the  
3        product.

1        36.    A printing system, comprising:  
2                a laser for printing an alphanumeric code on a product that is adjacent  
3        to the printing system and moving in a direction relative to the printing  
4        system, the code constructed from a plurality of pixels; and  
5                electronics for printing pixels on the product so as to form the code on  
6        the product, the pixels being printed in a two dimensional trace.